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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,151	04/18/2001	Paul E. Bender	QCPA655C1B1	7745
23696	7590	06/14/2005	EXAMINER	
Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714			KADING, JOSHUA A	
			ART UNIT	PAPER NUMBER
			2661	
DATE MAILED: 06/14/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/837,151

Applicant(s)

BENDER ET AL.

Examiner

Joshua Kading

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 9-18 and 20-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-18 and 20-23 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Objections***

2. Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 14, from which claim 15 depends, discloses exactly (explicitly and implicitly) what claim 15 discloses. Specifically, line 3 discloses the two or more access points in communication with a remote user and lines 4-6 is almost verbatim what is disclosed in claim 15. There appears to be no further limiting disclosure in claim 15 that is not already disclosed in claim 14.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 9-18 and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,958,018, Eng et al. (Eng).

Regarding claim 9, Eng discloses, "a wireless data communication system apparatus, comprising:

a plurality of network access points (*figure 1, elements 11 as described in col. 1, lines 25-26*); and

a plurality of control points, each of said plurality of control points being co-located with one of said plurality of network access points (*figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25*);

wherein each of the control points is configured to control communications between a remote user and at least two of said plurality of network access points (*col. 7, lines 60-col. 8, lines 1-28, specifically lines 14-19*) and

wherein each of said plurality of control points is configured to transfer control over said at least one of the plurality of network access points to a different control point (*col. 8, lines 43-49 whereby switching the cell to the appropriate node, the control point has effectively switched control to another control point*)."

Regarding claim 10, Eng discloses, "a wireless data communication system apparatus, comprising:

a plurality of network access points (*figure 1, elements 11 as described in col. 1, lines 25-26*); and

a plurality of control points, each of said plurality of control points being co-located with one of said plurality of network access points (*figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25*); and

a plurality of foreign agents, each of said plurality of foreign agents being co-located with one of said plurality of network access points (*figures 5 and 22 where the table of figure 5 is contained within each routing module of each AP and thus acts as a co-located foreign agent for roaming mobiles*), wherein each of the control points is configured to control communications between a remote user and at least two of said plurality of network access points (*col. 7, lines 60-col. 8, lines 1-28, specifically lines 14-19*)."

Regarding claim 11, Eng discloses, "a wireless data communication system apparatus, comprising:

a plurality of routers (*figure 1 where each Access Point is seen as in figure 22, and each AP has a router 27 as read in col. 8, lines 54-62 where an Access Processor is an Access Point as described in col. 1, lines 25-26*);

a plurality of network access points (*figure 1, elements 11*), each of said plurality of network access points being configured to: communicate with at least two of said plurality of routers (*figure 1, element 10 where each AP can communicate with all other*

*APs and thus other routers); and communicate with at least one remote user (figure 1, elements m, i.e. the mobile units are in clear communication with the APs); and*

*a plurality of control points, each of said plurality of control points being co-located with one of said plurality of network access points (figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25);*

*wherein each of the control points is configured to control communications between a remote user and at least two of said plurality of network access points (col. 7, lines 60-col. 8, lines 1-28, specifically lines 14-19)." and*

*wherein each of said plurality of control points is configured to transfer control over said at least one of the plurality of network access points to a different control point (col. 8, lines 43-49 whereby switching the cell to the appropriate node, the control point has effectively switched control to another control point)."*

Regarding claim 12, Eng discloses, "a method for data flow control in a distributed data communication system, comprising:

*receiving at a router data intended for a remote user (col. 8, lines 43-47); and*  
*transmitting the received data to a foreign agent, the foreign agent being co-located with a network access point (col. 8, lines 47-49 whereby routing the data to the servicing AP includes routing the data to a foreign agent because each AP contains the functional equivalent of a foreign agent as seen in figures 5 and 22, the table of figure 5 is contained within each routing module of each AP and thus acts as a co-located foreign agent for roaming mobiles)."*

Regarding claim 13, Eng discloses, "providing said received data intended for the remote user to a home agent, the home agent being associated with the router (*col. 8, lines 43-49 where again each AP contains the functional equivalent to a home agent in the routing module and address table as seen in figures 5 and 22, to be clear, the first receiving AP, as stated in col. 8, checks to see if it services the mobile in its routing table, and determines whether or not the data should be forwarded to the remote serving AP, thus the first receiving and its address table act as a home agent*)."

Regarding claim 14, Eng discloses, "a method for data flow control in a distributed data communication system, comprising:

receiving at two or more network access points data intended for a remote user (*col. 8, lines 43-49 where the data is first received at a first AP, determined if the mobile is serviced by that AP, and if it's not, it is sent to the remote servicing AP*); and

transmitting from the two or more network access points the received data to the remote user under control of a control point (*col. 8, lines 43-49 where each AP transmits the data to its destination, the first AP to the remote servicing AP and the remote servicing AP to the final destination*), the control point being co-located with a one of the network access points (*figures 2 and 22 where each AP has a control point 25 co-located with it*)."

If applicant should disagree that claim 15 fails to further limit claim 14, the following rejection will be used.

Regarding claim 15, Eng further discloses, "transmitting from the two or more network access points the received data to the remote user under a control of the control point (*col. 8, lines 43-49 where each AP transmits the data to its destination, the first AP to the remote servicing AP and the remote servicing AP to the final destination*), the control point being co-located with one of the two or more network access points in communication with the remote user (*figures 2 and 22 where each AP has a control point 25 co-located with it*)."

Regarding claim 18, Eng discloses, "a method for data flow control in a distributed data communication system, comprising:

receiving at a network access point data intended for a remote user (*figure 15, "receipt of MAC frame"*); and

transmitting from the network access point the received data to the remote user under a control of a control point (*col. 8, lines 43-49 where the first receiving AP transmits the data to the remote servicing AP of the mobile*), the control point being co-located with a network access point different from said transmitting network access point (*figures 2 and 22 where each AP has a control point 25 co-located with it, thus the remote servicing AP has the control point 25 for the remote mobile*), whereby the control point controlling the transmitting network access point is not co-located with said transmitting network access point (*figures 2 and 22 where since each AP has its own*



*control point co-located with it, and the remote servicing AP controls the remote mobile, the control point is not co-located with the transmitting network access point, it is co-located with the remote servicing AP).*"

Regarding claims 16 and 20, Eng further discloses, "transferring control of the network access point from the control point to a second control point (*col. 8, lines 43-49 whereby switching the cell to the appropriate node, the control point has effectively switched control to the remote servicing AP's control point*)."

Regarding claims 17 and 21, Eng further discloses, "wherein the second control point is co-located with said transmitting network access point (*figures 2 and 22 where since each AP has a corresponding control point the transmitting AP has a co-located control point*)."

Regarding claim 22, Eng discloses, "a wireless data communication system apparatus, comprising:

a plurality of network access points (*figure 1, elements 11 as described in col. 1, lines 25-26*); and

a plurality of control points, each of said plurality of control points being co-located with one of said plurality of network access points (*figure 22, element 25 as read in col. 3, lines 59-60 where each AP has the control modules 25*);

wherein each of the control points is configured to control communications between a remote user and at least two of said plurality of network access points (*col. 7, lines 60-col. 8, lines 1-28, specifically lines 14-19*) and

wherein each of said plurality of network access points are configured to communicate with at least two of a plurality of routers (*figure 15, "broadcasting" step allows the APs to communicate with all other APs and thus their routers*).

Regarding claim 23, Eng discloses, "a plurality of home agents, each of said plurality of home agents being associated with one of said plurality of routers (*col. 7, lines 19-26 whereby sending the "home update" message, the newly associated AP has effectively become the home agent of the mobile and each AP has its own address database as in figure 5, there are a plurality of home agents, each with an AP and thus a router*).

### ***Response to Arguments***

5. Applicant's arguments filed 24 May 2005 have been fully considered but they are not persuasive.

Applicant argues that claim 15 should not be objected to because it does indeed further limit the parent claim 14 by disclosing that the control point is co-located with one of the two or more access points in communication with the remote user. The examiner respectfully disagrees.

In claim 14 the only access points ever disclosed in the claim are the "two or more access points," see line 3. Further, claim 14, line 5-6 states, "the control point being co-located with one of the network access points," Thus strongly implying that the control point is co-located with one of the two previously disclosed network access points. If this is not the case, then applicant has created a vague and indefinite issue because it is not clear then which network access points "the one" is chosen from. However, reading the claim as is, claim 15 says the same thing as the last limitation of claim 14. Therefore, claim 15 does not further limit claim 14 and the objection to claim 15 is maintained.

Applicant argues with regard to claims 7 (now combined into claim 9) and 11, that the routers of Eng are not routers because they fail to "route packets between two or more networks." Applicant also argues that Eng does not disclose what claims 7, 11, and 20 state, "Eng discloses...controlling the flow of data. On the other hand, claims 7 and 11 (and claim 20) disclose controlling communication and controlling at least two of said plurality of network access points." The examiner respectfully disagrees.

Although the element of Eng is disclosed as a switch, the function of that switch is to route data from one access point to another. This is supported in Eng, col. 8, lines 47-49. Further, each AP has its own router as noted in figure 22. Since each AP has its own router, the communication of data as noted in col. 8, lines 43-49 and as seen in figures 1 and 2 show that these routers are in fact in communication with one another. And as seen in figure 1, elements 12-1 to 12-N, for example, are functionally equivalent

to smaller networks within the larger network of figure 1. Given this interpretation from the claims and from the prior art, the router of Eng fully reads on applicant's claimed router. Lastly, applicant even admits that the switch of Eng functions as a router by routing data, see REMARKS, page 8, section *Claim 9*, line 6.

Claims 9 (encompassing claim 7) and claims 11 state, "wherein each of the control points is configured to control communications between a remote user and at least two of said plurality of network access points." This is does **not** state the control points control two of said plurality of network access points. Claims 9 and 11 state that the control points control communication (which applicant has admitted Eng discloses by controlling the flow of data) and the communication between a remote user and network access points. Support for this can be found in Eng at col. 8, lines 43-49 where each AP controls the flow and routing of data, i.e. the AP control points control communication between a remote user and access points.

Applicant argues that for claim 22, "Eng discloses broadcasting to AP's in only one network...As stated above, routers are used to route packets between two or more packets." The examiner respectfully disagrees.

As with claims 7 and 11, the claims do **not** disclose that the routers route packets between two different networks. Further, as in figure 1 of Eng, elements 12-1 to 12-N, for example, are functionally equivalent to smaller networks within the larger network of figure 1 and thus the routers of each AP route data between the smaller equivalent networks.

Applicant argues that for claim 23, Eng does not disclose, "each of said plurality of home agent[s] being associated with one of said plurality of routers." The examiner respectfully disagrees.

As noted in the rejection, Eng discloses a "home update message" used to update the home AP that the roaming mobile is now associated with a different AP. Since each AP has the same internal structure as in figure 22, and each AP can act as a home AP for any mobile, the routing database of each AP acts as a home agent for each mobile originally associated with this AP. This can be further supported by col. 8, lines 43-49 where the first AP is the home AP that receives data destined for a mobile and it is then forwarded to the remote servicing AP. This is accomplished through the routing module or, in the home AP, the home agent.

6. Applicant's arguments with respect to claim 18 have been considered but are moot in view of the new ground(s) of rejection due to applicant's amendment.

7. Applicant's arguments, see REMARKS, pages 10 and 11, claims 10, 12, and 13, filed 24 May 2005, with respect to the 35 U.S.C. 103 rejections of claims 10, 12, and 13 have been fully considered and are persuasive. The 35 U.S.C. 103 rejections of claims 10, 12, and 13 have been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a further reading of Eng in light of applicant's amended claims.

8. Applicant's arguments with respect to claims 14-17 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,490,139, Baker et al. shows access points, each of which contains its own routing table (i.e. visiting and home agents) as seen in figure 4. U.S. Patent 6,377,982 B1, Rai et al. shows that each access point can indeed have its own foreign agent.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

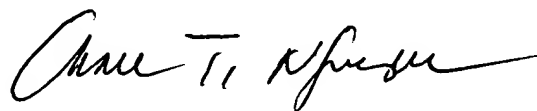
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joshua Kading  
Examiner  
Art Unit 2661

June 8, 2005



CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600